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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,016

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Friedbert Wechs

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HAMMER & ASSOCIATES, P.C.
3125 SPRINGBANK LANE
SUITE G
CHARLOTTE, NC 28226

EXAMINER

CHRISTIAN, MARJORIE ELLEN

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

09/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,016	Applicant(s) WECHS, FRIEDBERT	
	Examiner MARJORIE CHRISTIAN	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/1/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Summary

1. This is the initial Office action based on the application filed August 1st, 2006.
2. The petition has been entered and fully considered.
3. Claims 1-16 are pending and have been fully considered.

Oath/Declaration & Priority

4. Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in Germany on 2/19/2004. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath, declaration or application data sheet does not acknowledge the filing of any foreign application. A new oath, declaration or application data sheet is required in the body of which the present application should be identified by application number and filing date.

Information Disclosure Statement

5. The information disclosure statement filed 8/1/2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a **concise explanation of the relevance** (DE 4230077 & EP 0168783), as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

6. The items lined through on the information disclosure statement have not been considered, all other items have been considered.

Claim Rejections - 35 USC § 102

7. Claims 1-9, 12, 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by WO00/50160, HOU et al. (hereinafter HOU).

8. As to Claim 1, HOU discloses a process for producing an integral asymmetric porous substrate (P9/L27-30), comprising:

- Preparing a casting solution of polymer and solvent (P9/L32);
- The casting solution is cast or extruded in the form of a sheet or hollow fiber (P9-10/L37-1) *[shaped into an object with a first and second surface]*;
- That polymerization is carried in a solvent (P7/L29-30) and leached to remove the solvent and other soluble ingredients (P10/L2-3) *[surface into contact with a precipitant system, resulting in the formation of a membrane having a separating layer on surface]*; and
- the substrate is immersed (P10/L8-10) *[washing with the precipitant system]* in a polymerization solution that contains anionic acrylic monomer (P8/L8-9) *[polyelectrolyte with negative fixed charges]*.

9. As to Claim 2, HOU discloses that the polyelectrolyte includes the negatively charged group - carboxylic (P5/L11-12).

10. As to Claim 3, HOU discloses that the polymer having anionic groups (P5/L7-8) contains acrylic monomers (P6/L5-8) [*polycarboxylic acids are homo- or copolymers of acrylic acid*].

11. As to Claim 4, HOU discloses that the porous substrate is prepared from a casting solution which is extruded (P9/L37), then coated with the coating solution (P10/L4-5), where the polymerization is carried out in a solvent that contains the anionic acrylic monomer (P7/L28 & P8/L8-9) and then leached to remove solvent and soluble ingredients (P10/L2-3).

12. As to Claims 5 and 6, HOU discloses that the proportion by weight of the anionic polymer is from about 0.1% to about 10% (P8-9/L36-1), which overlaps the ranges disclosed (0.01 to 10 wt % and 0.05 to 1 wt %).

13. As to Claim 7, HOU discloses a method of preparing a negatively charged membrane using a hydrophilic microporous cellulose nitrate substrate (Example 3, P18/L25) [*cellulosic polymer is used as the membrane-forming polymer*].

14. As to Claims 8 and 9, HOU discloses a method of preparing a negatively charged membrane using a hydrophilic polyethersulfone substrate (Example 4, P19/L23) [*polyethersulfone is used as the membrane-forming polymer*].

15. As to Claim 12, HOU discloses a porous asymmetric substrate (P9/L27-28), where the porous substrate is coated with a coating solution, with the solution cured on the substrate (P10/L4-18), and the coating solution contains the anionic polymer

(P8/L29) *[polyelectrolyte with negative fixed charges is physically bound in the separating layer]*.

16. As to Claim 15, HOU discloses that the membrane is for separation of species such as proteins (Abstract).

17. As to Claim 16, HOU discloses that the membrane is modified by the coating solution containing the anionic monomer (P10/L4-5) *[membrane is for chemical modification with an agent]* and the membrane is then cured or crosslinked (P10/L16-20) *[that reacts with the polyelectrolyte with negative fixed charges]*.

Claim Rejections - 35 USC §102/103

18. Claims 10-11, 13-14 are rejected under 35 USC 103 (a) as being obvious over WO00/50160, HOU et al. (hereinafter HOU) as evidenced by US Patent No. 5,919,370, ROTTGER et al. (hereinafter ROTTGER).

19. As to Claim 10, HOU discloses the casting solution is cast or extruded in the form of a hollow fiber (C9/L36-C10/L1), where it is implicit that the tool used for shaping the polymer into a hollow fiber is a hollow fiber die, as further evidenced by ROTTGER. ROTTGER discloses that the tools used for shaping the solution can be slit dies or ring-shaped hollow fiber nozzles which have a center to form the lumen (C6/L14-18) *[forming device used is a hollow-fiber die]*, producing a hollow fiber membrane from the spinning solution (C6/L45-46) *[converts the spinning solution into a hollow-fiber]* with an inner and outer side (C6/L52-59).

20. As to Claim 11, HOU discloses that the porous substrate is a hollow fiber (C9/L36-C10/L1), where it is implicit that the polymerization solution is brought into contact with the inner lumen, as further evidenced by ROTTGER. ROTTGER discloses an inner filling that brings about the formation of the separating layer upon complete coagulation in a precipitation bath (C6/L52-64) [*precipitant system is an interior filler brought into contact with the inner surface of a separating layer facing the lumen*].

21. As to Claim 13, HOU discloses that the porous substrate is an asymmetric hollow fiber (C9/L36-C10/L1 & P9/L27-28) and the porous substrate is coated in polyelectrolyte by methods known to those having ordinary skill in the art (P10/L4-5), where it is implicit that the supporting layer is therefore free from polyelectrolyte. As the polyelectrolyte would be removed from the supporting layer during leaching (P10/28-29), absent evidence to the contrary and as further evidenced by ROTTGER who explicitly discloses the use of an interior filling (C6/L52-64) which would not contact the supporting layer.

22. As to Claim 14, HOU discloses that the porous substrate is a hollow fiber (C9/L36-C10/L1), where it is implicit that it has a separating layer facing the lumen, as further evidenced by ROTTGER. ROTTGER discloses the production of hollow fiber membranes where inner filling brings about the separating layer (C6/L45-53) [*separating layer facing the lumen*].

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARJORIE CHRISTIAN whose telephone number is (571)270-5544. The examiner can normally be reached on Monday through Thursday 7-5pm (Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MC

/Krishnan S Menon/
Primary Examiner, Art Unit 1797